

The evaluation of RDP effects on energy and emissions from agriculture in Sweden.

ERIC MARKUS

RDP MANAGING AUTHORITY
(ANALYST)

SWEDISH BOARD OF
AGRICULTURE

HOW TO DEMONSTRATE RDP ACHIEVEMENTS AND IMPACTS: LESSONS
LEARNED FROM THE EVALUATIONS REPORTED IN THE AIRS SUBMITTED
IN 2019. 11-12 DECEMBER 2019. SEVILLA (SPAIN)



Outline

- Background
- Approach used to answer the CEQs 12, 13, and 14
- Short summary of the main findings
- Limitations
- Recommendations for the RDP ex post evaluation in 2023

Background

Planned expenditure for priority 5: approx. 62 M EUR (1.6 % of total RDP expenditure)

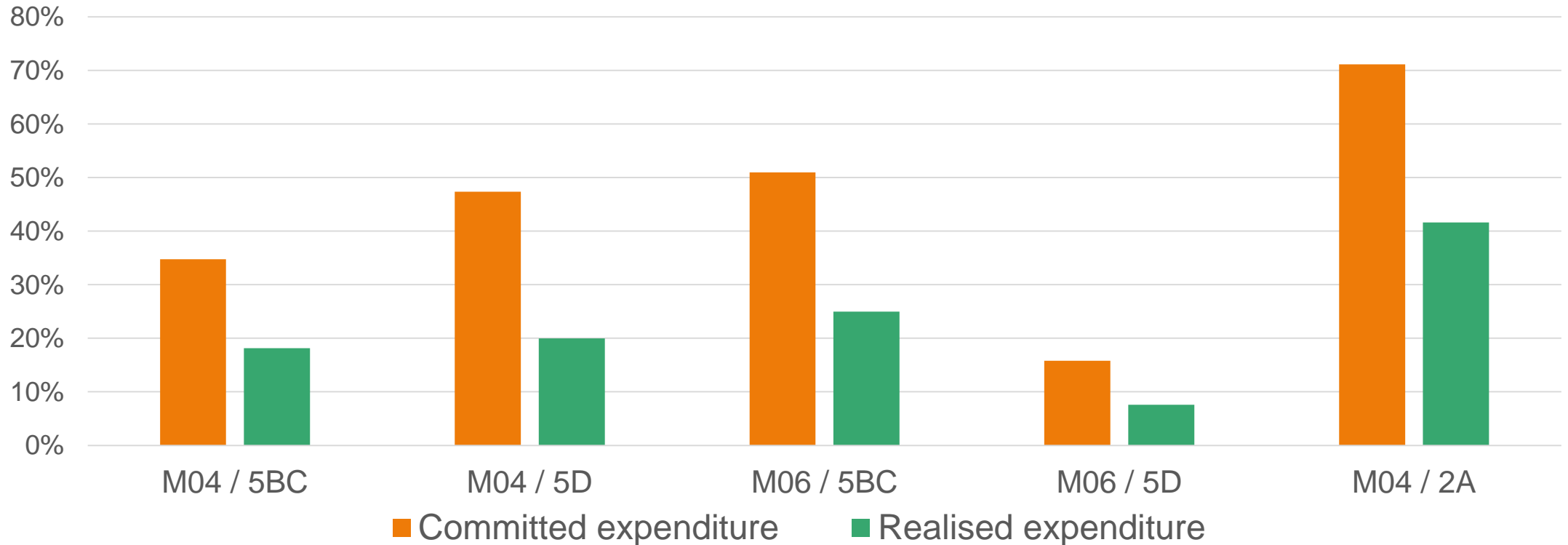
RDP measures considered in the answer to the common evaluation questions:

- CEQ12 on energy efficiency:
 - M04, investments in energy efficiency (FA 5B)
 - M04, investments in increased competitiveness (FA 2A) (*secondary contribution*)
- CEQ13 on renewable energy:
 - M04, investments in energy crops (FA 5C)
 - M06, investments in production of renewable energy (FA 5C)
 - M04, investments in increased competitiveness (FA 2A) (*secondary contribution*)
- CEQ14 on GHG and ammonia emissions:
 - M04, investments in manure management (FA 5D)
 - M06, investments in manure-based biogas production (FA 5D)

Rather low levels of uptake in Priority 5

Planned expenditure for Priority 5: approx. 62 million euro

Levels of uptake (committed and realised expenditure) as percent of budget
(to end of 2018)



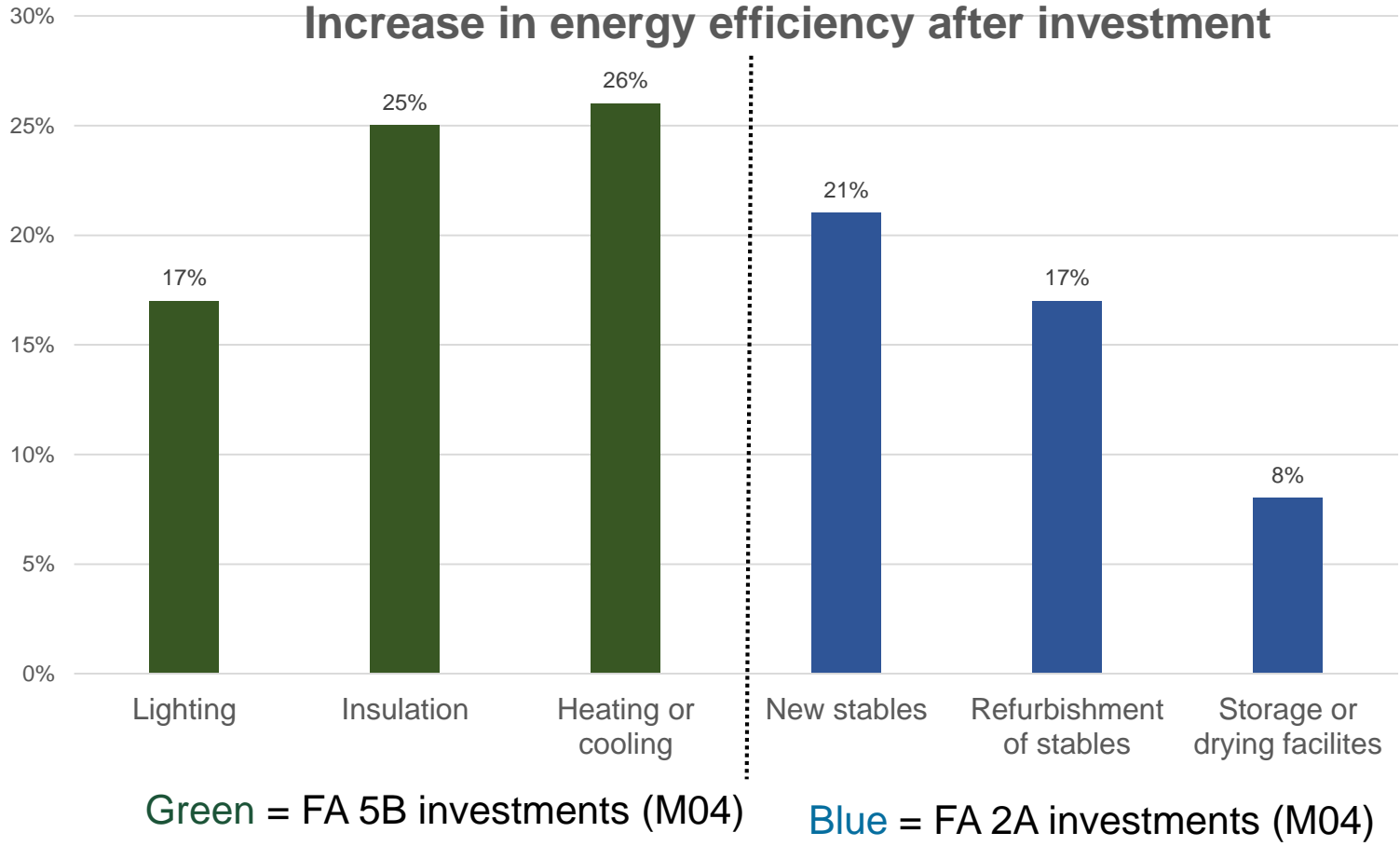
(Note! In SE, FA 5B and FA 5C have a shared budget.)

Approach used to answer the CEQs

CEQ	Indicator	Unit of measurement	Methods	Data
CEQ12 (energy efficiency)	R14	TOE/Standard unit of output	Naïve group comparison (micro level)	Beneficiary applications.
CEQ13 (renewable energy production)	R15	Both in TOE and Watts (*)	Before-and-after calculation of gross values (without controls)	Beneficiary applications.
CEQ14 (GHG and ammonia)	R18	Tonnes of CO2	Before-and-after calculation of gross values (without controls)	Beneficiary applications.
CEQ14 (GHG and ammonia)	R19	Tonnes of Ammonia	Before-and-after calculation of gross values (without controls)	Beneficiary applications.

(*) SFC did not include a specific field to enter information about installed capacity in Watts

Summary CEQ12: energy efficiency

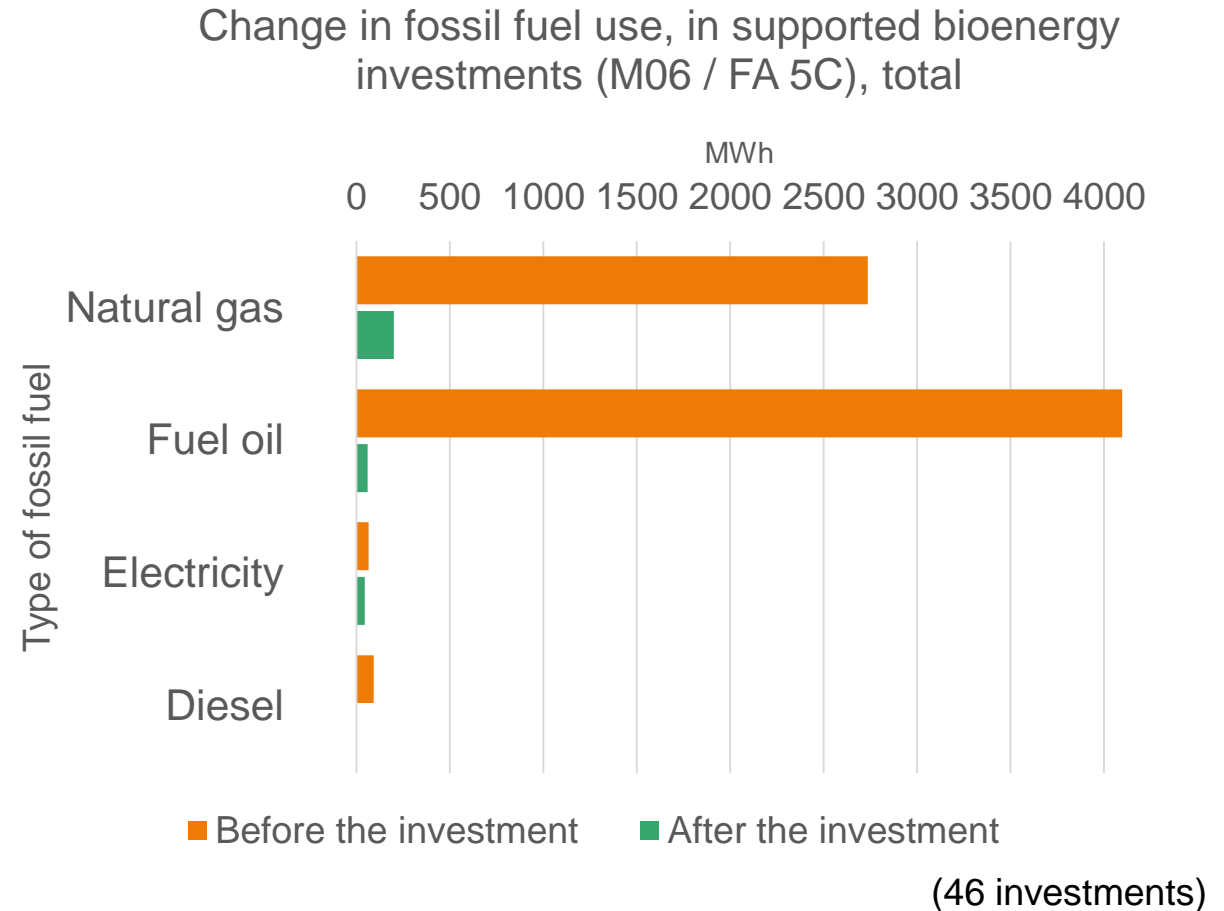


- Investments in M04 / FA 5B have led to increased energy efficiency.
- Many investments in M04 / FA 2A also lead to increased energy efficiency.
- Difference in energy efficiency outcome between M04 / FA 5B and M04 / FA 2A is small

Net effect of FA 5B investments seen as the difference between M04 / FA 5B and M04 / FA 2A investments.

Summary CEQ13: renewable energy

- 2 593.85 TOE of renewable energy produced in supported projects (R15):
 - Energy crops (M04 / FA 5C): 993.59 TOE
 - Bioenergy (M06 / FA 5C): 1420.31 TOE
 - Solar energy (M06 / FA 5C): 168.62 TOE
 - Geothermal energy (M06 / FA 5C): 11.33 TOE
- Investments in M06 / FA 5C have led to near-total replacement of fossil fuels with renewable energy sources in supported projects
- Installed capacity renewable energy in supported projects (M06 / FA 5C):
16 764 230 Watts



Summary CEQ14: GHG and ammonia emissions

Change in emissions of...	Manure application and storage (Method A, excl. expanded production)	Manure application and storage (Method B, incl. expanded production)	Manure-based biogas	Comments
Ammonia (tonnes NH3)	- 90	+ 4.9	n/a	Many beneficiaries expand their production when investing in manure management measures. Method A does not consider this expanded production, method B does. Values are for primary contributions only
Methane and nitrous oxide (tonnes CO2e)	- 348	+ 792	- 684	

Total emissions of NH3 and GHG have increased as a result of manure management measures (application and storage) since many farmers also expand their farm production (e.g. more bovine animals at the same farm) when making investments.

These values contribute to the reporting of indicators R18 and R19.

Main limitations of the approach

- Data quality is variable and depends on the beneficiary's estimates, including production values (which have then been translated into SO-values).
- Sometimes it was necessary to validate data from beneficiaries in other ways (e.g. other databases). Expert judgments of data quality and input were sometimes required.
- Administration of data collection in applications complex both for beneficiaries and MA.
- Approach does not cover all areas in FA5 (e.g. M01, M02, M16 – which are more difficult to quantify).
- Production values (for standard output) and energy values relate only to beneficiary's investment (e.g. a stable), not the whole farm.
- Net impact only estimated for energy efficiency.
- No more complex evaluations done (yet).
- So far a limited number of realised projects in FA5.

Recommendations for the RDP ex post evaluation in 2023

- Consider if and how data collection could be simplified both for MA and beneficiary. (Currently all applicants are asked a lot of detailed questions about energy use, production amounts, installed capacity, etc., in their application for funding.)
- Consider DiD or other more elaborate evaluate approaches where possible.
- Explore if FADN can be used to validate results, particularly for energy efficiency values.
- Improve data quality, particularly for manure management measures (FA 5D), e.g. through a survey.

Thank you

Eric Markus

Analyst, Swedish Board of
Agriculture

eric.markus@Jordbruksverket.se

Further information:

- [Swedish RDP results and expected impacts 2014-2018 \(Landsbygdsprogrammet 2014-2018\).](#)

In Swedish with an English
summary.

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